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(54) **HIGH LEVEL IN VIVO BIOSYNTHESIS AND ISOLATION OF WATER-SOLUBLE CANNABINOIDS IN PLANT SYSTEMS**

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(57) **ABSTRACT**

The inventive technology relates to systems and methods for enhanced in vivo production, accumulation and modification of cannabinoids. In one embodiment, the invention may include systems and methods for enhanced in vivo biosynthesis of chemically-modified water-soluble cannabinoids in a whole plant, or a cell suspension culture system.

Specification includes a Sequence Listing.